

## GEOHAZARD RISK MANAGEMENT PROGRAM

### North Central Region – Edson / Stony Plain Area

#### 2019 Inspection Report

Site Number	Site Name	Hwy	km
NC82	Morinville Slide	642	10.2
Legal Land Description	SW 4-56-25-W4M and NW 33-55-25-W4M		
NAD 83 Coordinates	3TM 114	5963560 N	22353 E
Operational Site Instrumentation	Slope Inclinometers	0	
	Pneumatic Piezometers	0	
	Vibrating Wire Piezometers	0	
	Standpipe Piezometers	0	
Date of Last Instrumentation Readings	n/a		

Risk Assessment	Date	PF	CF	Risk Ranking
Current Inspection	May 13, 2019	5	3	15
Previous Inspection	May 26, 2017	9	3	27
Report Attachments	<input checked="" type="checkbox"/> Photographs (8 photos)		<input checked="" type="checkbox"/> Site Plan (1 Page)	

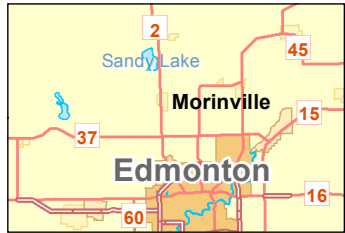
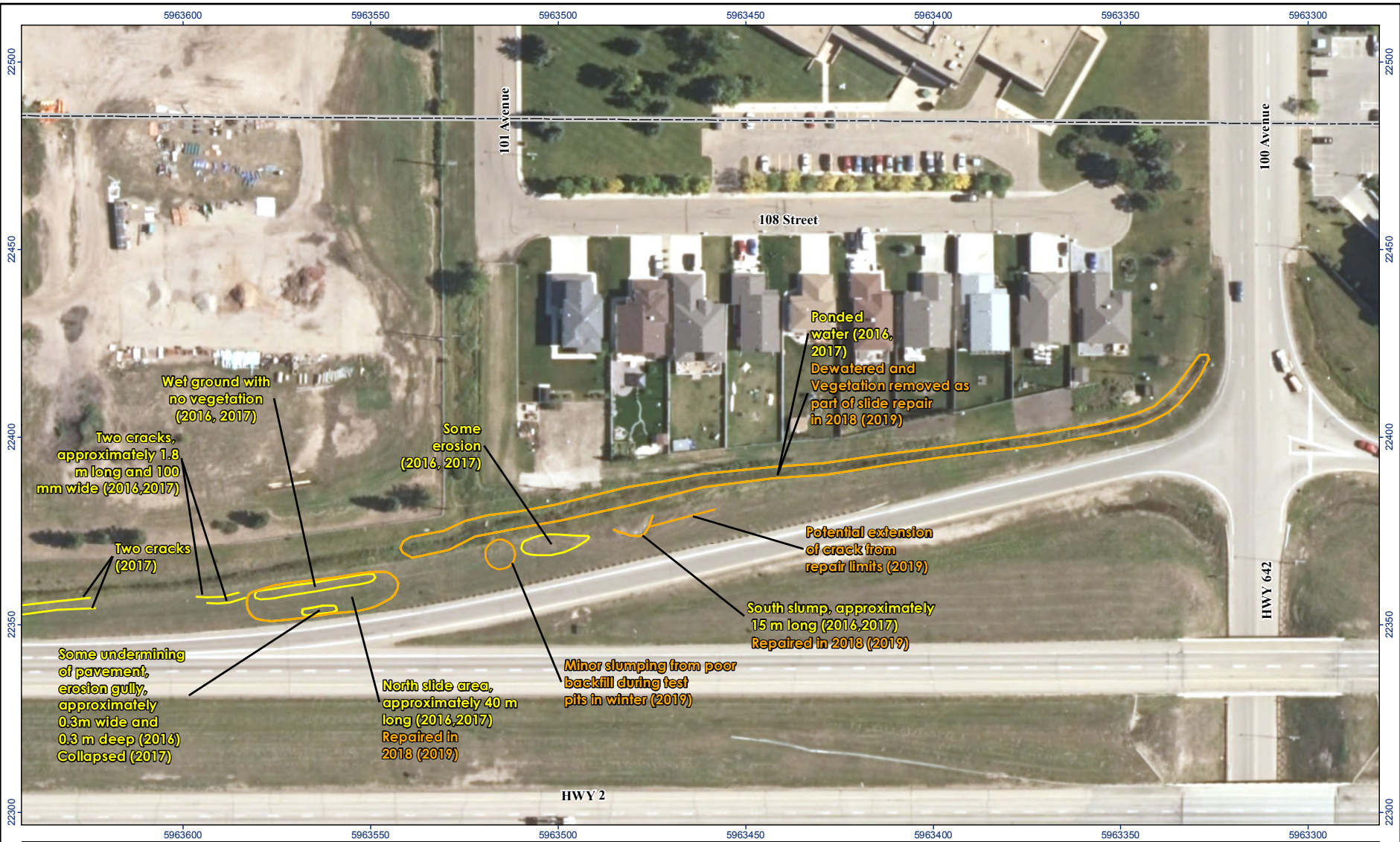
	Stantec	Alberta Transportation
Inspected By	Leslie Cho and Xiteng Liu	Kristen Tappenden, Brennan Evans, and Corbet Kratko
Date of Remediation	Winter 2017 – Removal and replace. Spring 2018 – Clay cap placed. Ditch cleaned and de-vegetated.	

<b>Recent Maintenance</b>	Fall 2016 – Stone post guardrails replaced with steel posts.		
<b>Primary Site Issue</b>	Embankment failure on the east side of the northbound on-ramp from Hwy642 to HWY2.		
<b>Observations</b>	<b>Description and Location</b>	<b>Change from Previous Inspection</b>	
<input checked="" type="checkbox"/> Pavement Distress	Pavement cracking at various locations of on-ramp to HWY2. Pavement cracking along new guardrails	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<input type="checkbox"/> Culvert Distress		<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> Bridge Distress		<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input checked="" type="checkbox"/> Slope Movement	Ground cracking extending south from south slump repair limits.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> Erosion		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<input type="checkbox"/> Seepage		<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input checked="" type="checkbox"/> Other	Small amount of water in east ditch from Highway 642 extending past 101 Avenue.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

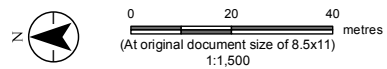
<b>Discussion</b>	<p>Both the north and south slumps were repaired in Winter 2017. No signs of slope movement were observed during this site visit as shown in Photos 1 and 2.</p> <p>Signs of minor slumping was observed in between the two previous slide areas as shown in Photo 3. The slump is located at the location of one of the test pits completed in February 2017.</p> <p>A new ground crack appears to be developing at the southern limits of the south slump as shown in Photo 4.</p> <p>Ditch drainage appeared to have improved with less water observed as shown in Photos 5 and 6.</p> <p>The highway surface appeared similar to the previous inspection. Photos 7 and 8 show the highway at the two slide repair locations.</p>
<b>Assessment</b>	<p>Slide remediation was completed in Winter 2017/Spring 2018 and appeared to have stabilized the slide at the repair locations. However, the new ground crack at the south slide suggests that additional slope movement is beginning to develop at the south limits of the old south slide. This is considered typical of embankment failures where once the initial slide mass is repaired, the slide mass begins to propagate beyond the initial repair limits. In periods of heavy precipitation, slope movement will likely increase.</p> <p>The ditch cleaning performed as part of slide remediation appears to have improved drainage.</p>

<b>Recommendations</b>	<p>Short term recommendations should consist of sealing any pavement cracks to reduce surface water infiltration into the slope and pavement structure.</p> <p>The Maintenance Contract Inspector should continue to monitor the new ground cracks for retrogression towards Highway 2.</p> <p>Ditch cleaning beyond the current site may be considered to further improve ditch drainage.</p> <p>Site inspections may be reduced to bi-annual frequency.</p>
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- Current Observation
- Previous Observation
- Morinville Township Limits



**Notes**  
 1. Coordinate System: NAD 1983 3TM 114  
 2. Data Sources:  
 3. Background: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Project Location**  
 Morinville  
 Sturgeon County, Alberta

Prepared by DJ on 2019-08-01  
 TR by LC on 2019-08-01  
 IR Review by XL on 2019-08-01

**Client/Project**  
 Alberta Transportation  
 Geohazard Monitoring Program  
 NC82 Morinville Slide

123312435 REVA

**Figure No.**

**1**

**Title**  
 Site Plan



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Reference: 2019 Annual Inspection Photographs at NC82 – Morinville Slide  
File Number: 123312435



**Photo 1:** Repaired north slide. Looking north.



**Photo 2:** Repaired south slump. Looking west.

Reference: 2019 Annual Inspection Photographs at NC82 – Morinville Slide  
File Number: 123312435



**Photo 3:** Slumping at previous test pit location. Looking west.



**Photo 4:** New ground crack at southern limits of south slump repair. Looking north.

Reference: 2019 Annual Inspection Photographs at NC82 – Morinville Slide  
File Number: 123312435



**Photo 5:** Cleaned and de-vegetated ditch. Looking south.



**Photo 6:** Cleaned and de-vegetated ditch. Looking north.

Reference: 2019 Annual Inspection Photographs at NC82 – Morinville Slide  
File Number: 123312435



**Photo 7:** Highway 2 surface at north slide. Looking north.



**Photo 8:** Highway 2 surface at south slide. Looking north.